

SENSE		TITLE		TIMING	
		Let's listen to the melody of the functions		 45 minutes	
AUTHORS		KEY WORDS		LANGUAGE	
Jean-Gabril Deshayes		Sounds		English	
LEVEL		TARGET GROUP		AGE	
B2		High school students		15-16	
COMPETENCES					
•	Global	•	Oral Production		
•	Oral comprehension	•	Written Expression		
•	Oral expression	•	Written Comprehension		
OBJECTIVES					
CONCEPTUAL		To intuitively understand what the following mean: • an increasing function • a decreasing function • a constant function • a function exhibiting changes in its variation			
LANGUAGE		• To establish the precise mathematical vocabulary related to variations • To begin formalizing the definitions of increasing and decreasing functions			

DESCRIPTION OF ACTIVITIES		
Appetizer	5'	Activity 1 Oral instructions (without writing "function") "You are going to listen to sounds. Your task: describe how they change over time. No mathematical terms for now." - Does the sound get louder? - Quieter? - Does it stay the same?
		Activity 2 The students listen to successive sounds (5-10 seconds each). - Sound A – Volume increases - Sound B – Volume decreases (Same sound, but increasingly quieter) - Sound C – Constant volume (Stable sound, no variation) - Sound D – Decreases, then increases, then decreases again Systematic question: "What does the sound do? How does it change?" No mathematical correction at this stage, only validation of everyday vocabulary.
Main Dish	5'	Activity 3 On the board, we create a verbal table with them: Its description: A increases B decreases C remains constant D Decreases then increases then decreases again Then you ask THE key question: "In math, how do you represent something that changes over time?" Expected outcome: a graph
	10'	Instructions: "For each sound, draw a freehand curve representing its evolution." - Horizontal axis: time - Vertical axis: sound intensity This is not about a precise graph, just the shape." Implied instructions: No numerical values Quick sharing We show one drawing per sound and confirm: - rising curve - falling curve - constant curve - rising then falling curve
Dessert	15'	Activity 4 Explicit introduction of mathematical vocabulary: - A function is said to be increasing when the order of two numbers and their images is preserved over an entire interval. - A function is said to be decreasing when the order of two numbers and their images is not the same over an entire interval. - A function is said to be constant when all the numbers in an interval have the same image. - A function can change its direction of variation. Key sentence to rephrase:

"Describing the variations of a function means describing how its values, called images, change when the variable changes."

Explicit link to the activity:

- Time corresponds to the variable.
- The intensity of the sound corresponds to the image.
- The graph allows us to visualize this change.

This phase directly prepares for the subsequent introduction of the variation table.



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